THE ELECTRONIC OFFICE: HOW SIMPLE CAN YOU GET?

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Eem
(LA Scans 7.18-)

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SIMPLICITY ITSELF

As a subject, simplicity is not generally understood. Nor is it highly regarded. These two unfortunate facts are closely related: if people understood simplicity better they might respect it more.

Indeed, it is coming to be widely recognized that computer systems to be used by non-technical people must be simple. Otherwise they will not be used or accepted. But then the question naturally arises: why have they not been?

I talk and argue constantly with people all over the country about these matters; what follows summarizes the attitudes I have heard, and states my own rather different beliefs.

1. Designers tend to have no respect for the user. Phrases like "idiot-proof," "turkey user" and "Joe Shmoe," when heard in the programming shed, indicate how deep-seated a contempt for the user is endemic in the programming field. Many programmers' attitude may be characterized as, "The fools will have to learn to deal with the world of the future, heh heh."

The technician masters complication; he has to; that's fine. It is his job; he sees this mastery of complication as necessary and a source of pride. That's fine too. Unfortunately, because he is used to it, he all too often sees this complication as unavoidable, and because he thinks it is unavoidable, he sees it as something he has a right to impose <u>because</u> it is unavoidable. Indeed, he does not see what he does as "claiming the right to impose complication," but merely as "passing on a knowledge of the real world." This is much like the attitude of prison guards and others with a license to degrade their captives.

2. Most designers don't know what simplicity means.

A. Many believe a system which is simple must be inane

or stupid, and that making a system easy to use restricts the clever user. (The saying, "If you make something foolproof, only a fool will want to use it" is an example of this viewpoint.)

B. **On the other hand, some designers think a system with _few and very powerful features_ is "simple."** For instance, two abstruse programming languages, TECO and EMAX, are considered by some of their adherents to be "simple text editors," even though considerable sophistication and cleverness is required to use them. But this is to mistake _parsimony_ for simplicity. Let us consider an analogy from the field of logic.

Many people have learned Boolean algebra without great difficulty, starting from definitions of "not," "and" and "or." There is another way of deriving Boolean algebra, however, which builds it up from a single entity called the Sheffer stroke function. The Sheffer stroke function replaces the functions _and_, _or_ and _not_ with only one function, which I will not try to describe here. It uses fewer premises. It is much harder to understand. I consider this an example of confusing brevity that should be taken to heart.

C. **Acquired obviousness masquerades as simplicity.**

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B. On the other hand, some designers think a system with few and very powerful features is "simple." For instance, two advanced programming languages, LISP and APL, are considered by some of their advocates to be "simple because clever uses is required to use them. But this is to stretch unreasonably for simplicity. Let us consider an example from the field of logic.

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C. Acquired obviousness masquerades as simplicity.

The longer you work with something the stranger it seems that everyone does not understand it; familiarity breeds seeming obviousnes.

For instance, this has led to a regrettable situation in popular operating systems. The operating systems CP/M and Unix-- both excellent tools for programmers-- are being inflicted on beginners and secretaries because the programmers who are used to them consider them simple and obvious. They are not, no way; and while it may be good for non-programmer's souls to learn them, it can also be argued that it is good for non-programmer's souls to learn Sanskrit.

D. Some designers confuse simplicity with Featuritis. Featuritis is the disease of design that occurs when you design simply by combining features-- for example, implementing some list of features (compiled, say, from responses of Datapro customers) item by item as separate programs. That way lies madness. If you want consistency, simplicity, elegance or even tolerability, you have to design in a way that builds on commonalities and unifying structure.

SOME SIMPLE DESIGN PRINCIPLES

So far I have implied certain rules of design by suggestion. The designer must respect the user, and see the need for simplicity. The designer must also, however, have an idea how to make that simplicity. This last is where things tend to fall apart completely.

Designers in most fields do not, unfortunately, understand simplicity; sometimes I suspect that they don't even know how to design at all. As I see it, the main purpose of design-- especially the design of technical things people have to work with-- is ease of use and clear-minded understanding. This applies to both equipment and software.

For instance, high-fidelity sets are nearly all designed dreadfully. It seems to me that they either have a lot of knobs all in a row that look alike, or they have an irregular arrangement of knobs that bears no imaginable relation to their functions. Whatever the layout, the user is required either to look at the printed labels on the knobs, or memorize their positions. But often you just have to keep trying knobs till you find the right one.

Similarly, the standard cassette recorder, with its row of look-alike keys, is usually impossible to operate in the dark, or without your looking at it carefully. But

designers apparently suppose that there is something good about these look-alike symmetries, and, unfortunately, consumers do not yet know better, so the designers have not yet found out.

SIMPLICITY IS SOMETIMES HARDER

You might feel, now, that it is easier to make things easy than to make things complicated. Sometimes this may be true (as with good knob layout). But often it is harder to do it right. Indeed, to make things simple at the user level often means much harder implementation.

Consider, for example, automatic transmission in cars. Automatic transmission is much simpler for most users than manual shift-- yet it is much more complicated to design, build and maintain. Another nice example is the human hand-- easy to understand and use, very difficult to build or repair.

SIMPLICITY IS NOT ITSELF SIMPLE

Have we got a simple definition or analysis of "simplicity?" Unfortunately not. I think simplicity is a cluster-concept with no central core. While it has to do with fewness of principles, it is also in large measure

psychological. A thing is simple which seems simple--regardless of the representation, locution or diagrammability of its structure.

THE PROCESS OF DESIGN

Given the difficulty even of recognizing good design, the process of designing interactive software is not easy (see reference 2). I see it as having several parts:

1. **Studying the breadth of possible cases.** Try all the kinds of possibilities that span the kinds of features and aspects you might want to get into your product. List the priorities. Think about possibilities night and day.

2. **Condensation of principles.** See what different ways they come together. Try out different ways to collapse the many possible cases into a simple structure of principles.

3. **Find the best fitting, cleanest set of principles.** Simplicity at the user level, I believe, has a lot to do with the clarity and simplicity of principles, even if they are strange and arbitrary.

Unfortunately there is a joker in the pack. What seem

to a user to be clean and well-organized principles may be very difficult to implement. And the important thing is how they seem to the user, not how easily they can be programmed.

An Hypothetical Example: Pac-Man

I have hypothesized the way that the game of Pac-Man might have developed as an example of how principles evolve in the desiogn process. First, let us say, someone created a maze you could wander through on the screen. This was not terribly interesting, so he added monsters that would eat up your cursor if they caught you. Well, that was an improvement, but people wouldn't try to get around the maze, so perhaps for that reason they added the idea of <u>eating dots</u>, to make the player go all around the maze.

Now, that might have been all right, but you got slaughtered every time, so they needed to add a way to make the monsters get off your tail. So they tried various ways you could turn the monsters around so you could chase <u>them</u>.

And then came the breakthrough. The way you would make the monsters vulnerable was by eating "power dots"-- dots that were large and blinked conspicuously. This assimilated to the dot-eating mechanism for making you cover the whole board. And so the principle of <u>eating dots</u> became the

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And then came the breakthrough. The way you would make the monsters vulnerable was by eating "power dots"-- dots that were large and blinked constantly. This originated to the most-eating avenemies for making you cover the whole board. And so the principle of eating dots became the

center of Pac-Man.

This hypothetical example is meant to show how non-obvious principles emerge in the design process, at least if you are open to such an emergence. By mulling over all the different ideas you would like to include in your structure, you may be able to find **principles** that come to have generalized meaning throughout your sysatem. And these principles can be totally arbitrary.

TEMPTATIONS

There is always the temptation to kludge it, especially at the beginning. This consists of trying to simplify the design task prematurely, with a "Let's try it this way just to get something started." This is usually the wrong thing to do, unless you have great funds and management support for extensive experimentaiton. (Gene Hughes, of Datapoint Advanced Product Development, phrases it elegantly in what he calls an "anti-motto:" I'll do it right later. But he makes a point of taking the time to do things right the first time.

Another temptation is to think prematurely that you've got a good design when you haven't. Many poor designs have a deceptive appearance of obviousness: "how else would you do it?" But you should **always mistrust the feeling that**

there is only one way to do a thing. You might be right, but probably you are not-- that is, unless you've thought about the alternatives a lot.

Game Design

Compare the process of designing games. The result of good game design is elegance and simplicity; but anyone who has tried to design games knows well that elegant and simple games are not easy to come by. The simplicity of good games is deceptive; and designing a computer system that is simple to use is very much like designing a good game. You are not merely trying to find a set of rules that fit together. You are looking for sets of rules and ramifications that have a magical quality.

(To mention just one example, Allan B. Calhamer refined "Diplomacy" for years to find the simple set of rules achieving its fiendish playability.)

Sometimes fewness of premises does indeed mean a kind of simplicity in elegance. Consider the games of Go, Go-moku, Pente and Reversi (Othello). Each of these has very few premises, and the rules may be learned in under ten minutes; yet the serious student of each of these games finds ramifications extending and entwining without end. They are deceptively simple: the simple premises are easily learned, but the possible ramifications-- and styles of

usage-- can escalate virtually without limit.

But such playable simple games, capable of escalating levels of strategy, appear to be comparatively few in the space of possible games. (Chess is an interesting counterexample. Unlike the games just mentioned, chess cannot be learned in nearly so short a time, and the exploration of its ramifications and byways fans out to a legendary extent. But not everyone is a chess player. Nobody said chess was simple; what we need more of is simple systems.)

Video games, because of the commercial requirements for their success, throw these matters in a sharp light. (See reference 1.) Like deceptively simple board games, they rise from easy comprehension to intricate play.

So let us consider seriously the paradigm of the video game. I think it may safely be said that video-game designers understand interactive computer systems far better than do the designers of office systems, at least to date, and so it is not frivolous to look at their work with the greatest care.

A so-called "video game"-- actually a highly-tuned interactive computer graphic system-- has a number of important features that make it "simple."

First of all, conceptual simplicity. You can get the idea by watching a game or two, then trying it; or, if you prefer, asking the player you are watching.

But "conceptual simplicity" here means the idea can be understood-- not necessarily described. "Simplicity" turns out to be slippery, not itself a simple idea. But in any case, those necessities of the video game, fast orientation and immediate use.

There may be non-obvious features and ramifications; but these reveal themselve to the motivated user as he or she reaches successive levels of play.

There is no upper limit on performance. The greater the skill, the more you score, ad infinitum-- except that the video game parlors punish you with higher demands as your scores go up, speeding up play until you fail. We may expect better in tomorrow's office system, since management will not wish to cut off the more highly skilled player.

Finally, the video game makes extensive use of sound effects and color-- and so will tomorrow's office system, at least for those users who like sound effects and color.

A SIMPLE OFFICE

I have a very simple notion of tomorrow's office. It has two parts: a filing system in the back, and video games in the front.

These two are entirely separable, communicating only through a standardized (but rich) protocol, on local-area nets or by whatever wires and packets you prefer. What counts is the simplicity of each end, the back and front, and that their simple functions build to high power.

Like video games, both parts of this "electronic office" have a structure so basic everyone can understand them quickly, yet they are capable of many different ramifications. Both front and back are "deceptively simple," like the good games we talked about: there are easy-to-understand rules for beginners, but users may rise to higher and higher styles of usage-- or, let us admit the idea, styles of play.

Each of the video-game parallels mentioned earlier, except the sound effects, applies to both the front and back ends of the system I am talking about.

1. THE BACK-END STORAGE

I want to talk about a kind of storage that has no general name as yet, though we might call it pooled multiversioning. (The only example I know if is the Xanadu(tm) hypertext system (reference 3).)

Basically this is a storage system which stores things only once, but allows "copies" to be created and rearranged into many forms by using pointers. A given paragraph, say, is actually stored in only one place, but may appear in more than one place-- by having a pointer to the paragraph in each place. This allows the same data to be used in many different manifestations, out of a common pool, without any copying of the material. Derived secondary instances are handled by pointers, and assembled where needed. (The description is simple, though the implementation is not.)

This approach has a number of advantages. One is that separate manifestations of the same data-- different texts, say, made out of the same originals-- only store the data once, and maintain their own pointer structures to it. A more powerful advantage is that a user can look "sideways" from one document to others, and ask to see the same material-- let's say, a given paragraph-- in another document, side by side with the first. Thus it becomes easy to see all occurrences of a given thing, or any pair of variants side by side. (We may call this "counterpart viewing.") Nothing is copied. Different uses of the same

text piece, business entry or record are handled by indirection.

In addition to the functions for controlling and viewing variants, we need arbitrary linkages of any kind that users want to define-- for footnotes, marginal notes and so on. The ability to jump outward from a document to the source of a link pointing into it-- the so-called "PMUJ"-- is one of the hard parts to set up.

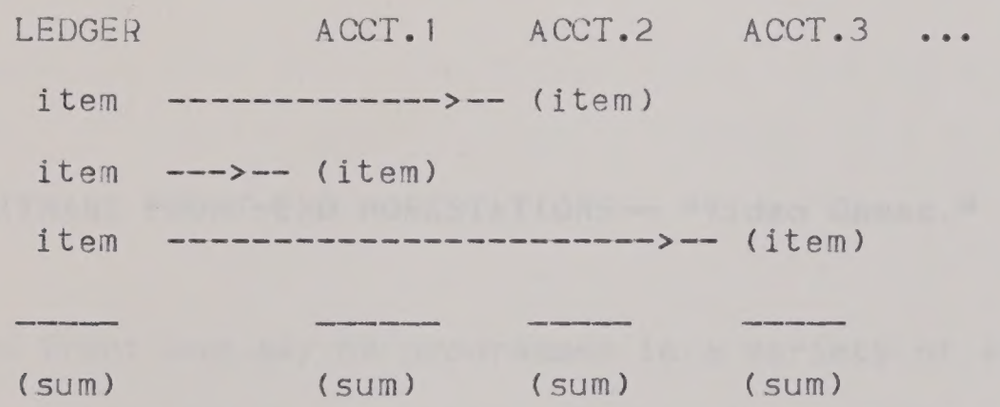
What need to be the units of such a storage system? The pool? The account? Using what we call a literary model, we may call the unit a Document. A document has an owner and may have many quoters and many versions under the control of others than the author-- a linkable collection with as many variations as desired. In another sense, a document may have many owners-- the original owner and many quoters. This assures that any item may be given new uses not previously planned. (I've written about the textual and library uses of such a system; see reference 3.)

Just as game designs grow intricate ramifications from simple premises, such a back-end storage design, easily stated, can grow powerful usages for intricate purposes out of its simple structure. **This approach puts simplification in the back end-- in the intrinsic organization of the data.** And it makes the creation of additional layers of

application programs much easier.

Let us take a non-literary example, to see how this kind of side-linking works in a conventional business application. Let us consider how by putting the true intricacy in the back end itself, we can simplify the overall conceptual structure as well as the implementation.

Suppose we use an instancing system like that described to store a general ledger. Let this ledger consist of primary transaction records-- payments, etc.-- and let's say that secondary instances of these payment records are put in journals of individual accounts.



Through this general approach, any item may be <u>read sideways</u> from its manifestation in any account to its origin in the general ledger. (Note that I am not talking about <u>copying</u> the item, a conventional approach that leads to many different kinds of complication, as is well known to good programmers; but about using a separate manifestation,

linking to its counterpart or original by some sort of pointer technique. This means that changes in the original are reflected in the secondary through the storage mechanism rather than through mechanisms of explicit revision, which is the more usual technique.

Here we see, in simplified form, that by creating a simplified under-level that handles such arrangements cleanly in the data, the programming of such applications-- many applications-- can themselves be deeply simplified. But this means, too, that we must search in some deep sense for the true interconnective structure of our applications, since they may be cleanly modelled, without static, in this type of storage. You get exactly what you ask for.

2. ARBITRARY FRONT-END WORKSTATIONS-- "Video Games."

The front end may be programmed in a variety of styles: high-resolution black and white with overlapping windows (the style made famous by Xerox PARC), parallel scrolling windows with links shown between them, or many others. A front-end system may be optimized for text or graphics, for footnote-hopping or the study of related and parallel text, for music theory scholarship or annotating archaeological digs.

Like video games, these may be as colorful and vivid as desired. The important thing is that they clarify and motivate, and allow the motivated user to climb to high levels-- levels for which office systems have not been tuned in the past.

Why not have an office full of the chugging, tweedling and calliope sounds of the video arcade? If the users enjoy it and are more productive-- and can shut off the sound when they don't want it-- it's the way to go.

VIRTUAL PAPER AND BUGGY WHIPS

There are many other approaches, many of which may have validity. I find it hard to respect, however, the VPOP (Virtual Piece of Paper) approach.

The VPOP approach may be summarized as follows. Users, inane creatures that they are, need something familiar to cling to; we will give them something familiar, something they can understand, "something to hold onto." We will give them the virtual piece of paper on the screen. And this has resulted in the strangest possible arrangements. The VPOP takes information and text that have no natural limits and divides them into modules like ordinary sheets of

paper-- giving the information a sense of identity eleven inches high and eight and a half inches wide. In much the same fashion, the early makers of horseless carriages gave their drivers something to hold onto: the buggy whip.

We are entering a new continent of electronic text, information and ideas. The motivation behind the VPOP is, of course, is to avoid even the briefest conceptual lurch as the user enters the new world. But I think this is foolish. Simplicity and clarity are what we need, and simplicity and clarity have nothing to do with whether you have seen a thing before. (Check this in any video game parlor.) Simplicity and clarity are what _good design_ is about. And when people learn to recognize good design, the other kind will disappear quickly.

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(Cover sheet for PGL d15)

d1: 14 July 1982

Supposedly the men being listed in The Bachelor's Register (Playgirl Press/Simon & Shuster, to be published 1983) are America's hundred most interesting eligible bachelors. In answering the questionnaire I have tried to live up to that designation without misrepresenting myself. These are my answers. (The questions are presented exactly as originally given.)

The book's editor, Celeste Fremon, says she will introduce me as something like "The Oversexed Mad Leprechaun Poet of Computerdom."

TN

F46 – F62

on Gem
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DATE OF BIRTH: 17 June 1937

PLACE OF BIRTH: Chicago, IL

HEIGHT: six feet.

WEIGHT: 175.

COLOR HAIR: dark blond.

COLOR EYES: grue or bleen.

OCCUPATION: maverick computer utopian; writer, designer, generalist.

EDUCATIONAL BACKGROUND: B.A. Swarthmore (Philosophy); M.A. Harvard (Sociology).

MARITAL STATUS: Singular.

MAIN INTERESTS OTHER THAN OCCUPATION: Movies, Philosophy, theories of evolution, society and mind; relational structures of similarity, difference, and continuity implicit in abstraction; new directions in multidimensional sex and vice versa.

WHAT DO YOU LIKE BEST ABOUT YOURSELF: Brilliance, perceptiveness, imagination, intuition. Also I write good.

WHAT WOULD YOU LIKE TO CHANGE ABOUT YOURSELF?
My height. I always wanted to be six foot seven. Also I sometimes wish I could get to work before midnight.

WHAT IS THE MOST SIGNIFICANT MOMENT IN YOUR LIFE?

There were two relly big ones, one on each side of me.

The first was when I realized that the computer screen would be mankind's new home: we would have interactive movie-machines screens fed and made antic by computers, and these would become the centers of our work and play, reading and study and research, moviemaking and art. It came to me that the age of paper was about to end, and we had to begin figuring out what new worlds we would actually want, worlds that would be responsive in ways people would enjoy and benefit from. So designing these new worlds, without letting the engineers get control, had to have top priority.

That was over twenty years ago, and it's taken much longer than I expected. Much has happened: we have so-called Video Games and Word Processing and some computer teaching-- disguised computer screens all-- but the revolution has hardly started yet. Meanwhile, people are beginning to understand what I've been saying all these years about deciding what kind of a human world we want,

respecting both the traditions of the past and the joys of tomorrow, and not letting the technologists lock us up in a cage of cold and clumsy ideas and throw away the key. (People call computers cold, but they just don't get it. A sled may be cold, but you can have warm fun on it. And a computer can be the scene of warm, human activities just as much as the back seat of a car. It's just that computers aren't being made with the right upholstery and sound systems yet. Anyway, since computers will be built into everything, where the computer leaves off and the car or love-nest begins won't be a precise borderline.)

So that was the big realization that got me going, designing futureworld software and new forms of writing for tomorrow's screens. That was the intellectual turning point for me.

The other turning point, the emotional one, was the night in the late sixties that I realized how much I loved a certain lady who had departed. While we'd been together I'd <u>thought</u> I loved her, but I'd never really felt it. After she'd left, <u>then</u> I felt it. That realization was a main dividing point in my life and I've had to burn a lot of karma since then; but now I can feel love while it's there.

WHO OR WHAT HAS INFLUENCED YOU MOST IN YOUR LIFE?

When I was twelve years old I had four big heroes: Walt Disney, Orson Welles, Bertrand Russell and Buckminister

Fuller. Disney because he had moved my emotions very powerfully; later I saw how he had built a dream, and how his personal artistry actually governed the details of the wonderful things his studio put out. Welles as pure showman; I thought I would go into theater, like my parents, and I loved his dash and audacity, especially for "The War of the Worlds," which threw New Jersey into a panic. All I knew about Bertrand Russell was that he'd had a school where the kids went naked and had written a book called "Unpopular Essays." Little did I know of the diamond intellect that had tried to build a foundation for all mathematics out of just a couple of ideas. And Bucky-- ah, he had seen the future and gone straight for it, regardless of what others did, and according to the Reader's Digest he had <u>invented his own geometry</u>! Wow! What did it <u>mean</u>? Anyway, a few years ago I thought of these four men and realized how, in various arcane ways, my own life and projects had lived up to my four heroes' examples. So I feel on track.

One other guy had a tremendous impact on me. He was a Norwegian relative, an in-law named Agnar Mykle. Till I met him I thought all men had to be stern, macho, obtuse, uptight or preoccupied. He was open and enthusiastic about everything. I think I grew up kind of like him. Anyway, then he divorced out of our family and wrote a novel called "Song of the Red Ruby," which shocked everybody and brought about the sexual revolution in Scandinavia because they argued for months over whether to censor it and then decided

to abolish censorship instead. And you know where that has led.

HOW WOULD YOU DESCRIBE YOURSELF TO SOMEONE WHO HAS NEVER MET YOU BUT WHOM YOU WANTED TO LIKE YOU?

Look, don't be misled, he comes on very strong but also like a wifty lightweight, and you'd never know how influential his ideas have been.

Most people find him too intense and too quick; there are no conversational preliminaries. Things are very important to him that you probably never heard of and he may bring them up immediately, mentioning forty peculiar-sounding subjects in five minutes, but keep listening, he's really trying to communicate. If he writes things down all the time it's because he finds you inspiring but the subject-matter is probably some arcane topic he hasn't decided the name of yet. He never remembers names or faces, so tell him your favorite ideas quickly if you want to be recognized the next time. Don't be misled by his superficial eccentricities: he's not trying to be different. In fact he considers it immoral to try to be same, when Things To Be should be decided on their own merit.

You'll understand when you see his apartment. Piles of books, papers, magazines, cartons, and his favorite commodity, Weird Crap, some of it from toy counters, some out of garbage cans.

Take him seriously. Deep down you may think he's wacko

extraterrestrial, but he really wants to make contact with your species. Do not make fun of him. He takes a chance in trying to be very open, and pulls away fast if you miss the wavelength.

WHAT ARE YOUR LIFE GOALS AND/OR DREAMS?

Today, right now, very soon, we will be making irrevocable decisions about the society of the future. This will be an information society, a computer-screen society. We will spend most of our lives at computer screens-- except people don't want to see the generality of this; instead we give a computer screen for some specific purpose a phony name that makes it seem more familiar, like "video game" or "word processor."

We'll be deciding very soon as to the new forms of the written word. The screens and computers are ready, the software is not, but many idiotic proposals for "electronic publishing" are at hand. Yet those who are promoting these ideas-- engineers, cable people-- don't seem to have any notion of <u>design</u>.

Okay, so my principal life goal is the Xanadu(tm) project: a serious plan for electronic publishing that can grow into an immense repository for the entire world. It's one computer program that can be distributed throughout a larger and larger network, as we add books and articles and pictures and sculpture to the ever-growing collection of

stuff that's immediately available to your home or office computer screen. This is not the place to describe the higher-level features we've built in, but I guess I can summarize the goal simply: I want to make the world safe for intellectual kids.

Also someday I'd like to play Peter Pan onstage.

WHAT ARE SEVEN THINGS THAT MAKE LIFE WORTH LIVING FOR YOU?

Ideas.

Movies.

Love.

The Firesign Theater.

Great writing (especially Gibbon, Macaulay, Walt Kelly and The New Yorker).

Weird crap.

Hope.

WHAT ARE YOUR SEVEN MOST VIRULENT DISLIKES?

Sports.

Bullies.

Fools.

Stuffiness.

Smugness.

Apathy.

The Engineering Mentality.

Having to list a specific number of things on questions like this.

IF PRACTICALITY WAS NOT A CONSTRAINT, WHERE WOULD YOU MOST PREFER TO LIVE?

In my own garden space colony in high earth orbit. I expect to settle, however, for the San Francisco Bay area or/and London. I have to get frequent fixes of English eloquence and intellectual vivacity.

WHAT DO YOU CONSIDER TO BE THE MAJOR ACCOMPLISHMENTS OF YOUR ADULT LIFE-- YOUR OWN PERSONAL HERO STORIES?

Early on I had a lot of good ideas but I had to narrow down all the things I originally set out to do. The Xanadu(tm) Hypertext System was the only one that wouldn't have happened without me. I kept the Xanadu project together for twenty-one years, in the process ignoring the advices of many, many people in order to distill and perfect its design; and motivating the magnificent Xanies who have finally made it work.

But so far my greatest sense of reward comes when someone I don't know comes up to me and says, "Your writing put into words the ideas I was trying to formulate." That happens a lot and I love it.

IF YOU DISCOVERED A MAGIC GENII IN A BOTTLE WHAT WOULD YOUR THREE WISHES BE?

1. Aha. In the wish-story genre everybody always wishes for more wishes, but there's usually some restriction that forbids that. Therefore I'd start by wishing for a complete rundown on Wish Technology so as to use the next two wishes to the optimum. (The most important thing to buy is knowledge, and it costs.)

2,3. I'll let you know after the briefing.

WHAT ARE BOTH YOUR IMMEDIATE AND LONG TERM DESIRES IN TERMS OF A MALE/FEMALE RELATIONSHIP? (MARRIAGE? LOTS OF MAD, PASSIONATE AFFAIRS? BOTH OF THE AFOREMENTIONED? A COMMITTED BUT NON LIVE-IN RELATIONSHIP? SERIAL MONOGAMY? MATING FOR LIFE? WHAT?)

That's a tough one. We all have so many different urges and only one body to play them through. How reconcile the thrills of flirtation and falling in love and final physicality, both <u>seriatim</u> and <u>en masse</u>? As well as Comfort and Castle and Kids?

The world is in a new time. Instant doom watches heavy-lidded and all bets are off. To live life by old standards is silly; the only thing to do is chart whatever wild course your own heart asks for, and sail before the wind, forgetting Mrs. Grundy and the little old lady from Duluth. With the entire world now one teetering, precipitous experiment, the last possible excuse for conventionalism is gone. Do right and what pleases you in

your own chosen proportion.

So I see no part in conventional marriage. Though we need love and tuned commitment, I see no point in monogamy. Monogamy is in some sense a local payoff peak, a traditionally rewarding strategy in most societies and certainly what our hearts are partially wired up for, but a lot of other things work too-- as has been proven even in this country by the Mormons and the Oneida Perfectionists.

So I lean toward common-law group marriage (roly-polygamy? Marrying more than one person being illegal, it's gotta be off the books.). Or maybe a harem, like some nouveaux riches I could mention. But a nineteen-eighties harem would have to be nonsexist, and that's a new ballgame. Presumably in equalitarian haremics everybody gets to choose lovers, but with adjustments-- like some sort of diminishing space privilege on the basis of removes from who pays the rent. (Much more is needed in the way of lifestyle systems analysis and design. I believe it is possible to design whole societies.)

But affairs are of course very important, for the most intense classical one-on-one sex and euphoric uplift. I also believe very much is what you might call the Existential Quickie-- really touching someone psychically whether or not it involves genital hoohah-- not necessarily sexual or hetero. I think Ms. Jong called it the Zipless Whatchamacallit. But for this people have to be exceptionally wide open or primed to become so, and few of

us are. Hey, are you still reading this? Am I still writing it? Be the first to call with the magic word, plinth. Find truth. Give insights to strangers.

DESCRIBE WHAT YOU WOULD CONSIDER TO BE A DELIGHTFUL WAY TO SPEND THE EVENING (OR DAY) WITH A WOMAN IN WHICH YOU WERE INTERESTED:

Group sex on a first date can be the best or the worst possible way to get to know someone. It certainly zips you past the preliminaries, but it does introduce extraneous problems like stagefright. So probably something more idyllic but equally personal: I'd go for a movie marathon in New York City or San Francisco, starting with lunch in the garden of the Museum of Modern Art or the like, then walking from theater to theater, choosing together perhaps three films, with stops for good Chinese or Thai food; then end the formal plan with a really good party where my favorite intellectuals are good and drunk. Arguments, new research gossip, new words to learn. Then out for a long walk and maybe ice cream.

WHERE WOULD YOU BE MOST LIKELY TO GO WHEN YOU'RE BY YOURSELF?

Taking long walks at night, generally along nearby deserted roads, stopping frequently to write down ideas and

phrases. But people yell out of cars and I don't like that at all.

DESCRIBE YOUR IDEAL WOMAN-- THE WOMAN WHO COULD TRUELY (sic) WIN YOUR HEART.

I am not afraid of women who are smarter than I. I like to learn from the best. Making love to a brilliant woman makes me feel equal, and equal is enough.

So my dream woman-- let's see. She is English, a countess, a general intellectual, successful novelist, dazzling actress and good mathematician from an eminent literary-scientific dynasty; I have given her the working name of Esmerelda Huxley. She looks and speaks like Charlotte Rampling or Nastassia Kinski. With wit and limitless vocabulary she discourses on every possible subject and tells me lots of things I don't know. Not only does she talk as fast as I, but she listens fast, so we can both talk without stopping, not missing anything or ever being bored. She has ESP and a sotto voice, also like Nastassia Kinski, or Charlotte Rampling. She likes movies and long walks and hoohah. Her sexual skills, enthusiasm and attunement astonish. She is of course the perfect age, which is fifteen. But her mother says it's okay: I am uplifting her from a sordid past. And she will have lots of money to back my projects.

For some reason I have not yet encountered this woman,

though surely she has been searching for me for years. (My fear is that she has accidentally beamed to the wrong galaxy.) In the meantime I have had to make do & out with women possessing some subset of these attributes, especially intellectuals, actresses and mystics. Sometimes it has worked out better than others. I used to think this depended on how like Esmerelda H. she was, but recently I have learned that what really matter to me are warmth, wit and enthusiasm. The rest is negotiable.

IF SUCH A WOMAN EXISTS, KNOWS WHO YOU ARE, LIKES YOU BUT HAS NEVER MET YOU-- WHAT IS YOUR FANTASY OF HOW YOU WOULD LIKE THAT FIRST MEETING TO TAKE PLACE? HOW DO YOU WISH SHE WOULD APPROACH YOU?

A. Fantasy of that first meeting.

Across the lecture hall our eyes meet, and though her beautiful gaze seems calm and deep, I see the single convulsive spasm that reveals how profound a contact we have made. I am torn between daring desire and the necessity of keeping my place in the outline.

As the merrymakers disperse in laughter and imprecations I catch her arm by the stairs. Wordlessly she searches with those eyes my face, my body. She unbuckles my weapon and it clatters to the floor. The paving-stones are cold beneath our feet, the light cold rain stings our bare shoulders as the breakers crash below. With one motion I

unfasten her robe. Equipment rolls past. Signal fires and self-illuminated butterflies present their messages. The shouts of the crowds outside the palace slowly fade as we sink into the darkened pool. There is no need to speak. She has read my books. Overhead the Air Force Thunderbirds roar by: the thrust and throbbing are intense. A nearby bird-of-paradise gives a gasping cry and takes wing, somehow showering us with strange jewels as we intertwingle in each others' arms, flesh, attitudinal frames of reference, power centers, neurons, dendrites, leptons, quarks, quirks, cries and whispers.

B. **"How I wish she would approach me."** Oh, how I do indeed. I have always been terrified and paralyzed when I wanted to approach women, mostly from the crushing rebuffs and ridicule of high school. While I have no trouble getting up before five hundred people and speaking extemporaneously on any subject, I cannot ask a strange woman to dance, and even calling up a woman I don't know involves staring at the wall to work up my courage.

So I'm easy to approach: there is no red tape. If she wants to talk philosophy she will murmur "Syncretistic Eschatology." If she wants to make love to my body for hours while I lecture to her or recite poetry, she will say "plinth." If she wants to be rejected she will say "tennis."

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